ABSTRACT

Purpose. To determine and compare the marginal fit of full crown patterns made of inlay wax, epoxy pattern resin, auto-polymerised pattern resin and light cured pattern resin on storage at varying time intervals.

Material and methods. A total of 40 patterns were fabricated and distributed into 4 equal groups. 10 patterns each were fabricated using Inlay pattern wax (Group I), Auto-polymerized pattern resin (Group II), light-cured pattern resin (Group III) and Epoxy resin (Group IV). Marginal gap of patterns on their respective dies were measured using SEM at 1hr and 24 hrs.

Results. The mean gap of the patterns fabricated using Inlay wax at 1 hr and 24hrs were 28.18 μm and 35.15 μm, Autopolymerized pattern resin at 1 hr and 24 hrs were 25.82 μm and 28.00 μm, Light-cured pattern resin at 1 hr and 24 hrs were 17.14 μm and 17.94 μm and Epoxy resin at 1 hr and 24 hrs were 28.14 μm and 30.24 μm respectively. There was a statistically significant difference between groups I, II, III and IV (p value < 0.05) on storage at 1 hr and 24 hrs.

Conclusion. The results indicated that the resin pattern materials underwent significantly less dimensional change than the inlay wax on prolonged storage. The light-polymerized resin had better marginal fit, compared with wax, epoxy resin and autopolymerized acrylic resin on storage at 1 hr and 24 hrs.

Keywords. Resin patterns, vertical marginal discrepancy, epoxy pattern resin, light cured pattern resin, Inlay wax.